

Reply to Letter to the Editor

Posterior Malleolar Stabilization of Syndesmotic Injuries is Equivalent to Screw Fixation

Anna N. Miller MD, Eben A. Carroll MD,
David L. Helfet MD, Dean G. Lorch MD

Published online: 1 September 2010
© The Association of Bone and Joint Surgeons® 2010

Reply:

We appreciate the interest by Huang et al. in our article [1] and the opportunity to reply. The first concern of Dr. Huang and his colleagues regarded the patients we examined in our study population. They correctly note that supination-external rotation injuries do not always have syndesmotic involvement. In our case population, as noted in the article [1], all patients had a positive radiographic stress examination and preoperative MRI that confirmed syndesmotic involvement necessitating fixation.

Their second point was whether our posterior malleolar fixation would provide sufficient stabilization for fractures with “greater instability.” We did not address this directly, but as we did mention, the posterior malleolus alone accounts for 42% of the strength of the syndesmosis [2]. We believe that if the medial side is reconstructed, either by fixation of a medial malleolar fracture or by repair of a torn deltoid ligament, additional syndesmotic fixation is unnecessary, even in more unstable injury patterns. Since reviewing the patients in our article [1], the senior author

(DGL) has completely stopped augmenting posterior malleolar fixation with syndesmotic screws, even in fracture-dislocations. Each of these patients has stress testing after fixation and they no longer have any sign of instability. Thus, they have anatomic fixation without screws across the syndesmosis.

The third question also addresses this topic, asking why a combination of posterior malleolar fixation and trans-syndesmotic screw fixation was used in the more unstable fracture-dislocations. During the time we were accumulating this series of patients, we were unsure if the construct would be stable enough for these more severe injuries, but after this study and its predecessors were published and after review of our subsequent patient series (as yet unpublished), we do not believe more severe injuries need supplemental syndesmotic fixation. We thank Dr. Huang and his colleagues for their interest in our article.

References

1. Miller AN, Carroll EA, Parker RJ, Helfet DL, Lorch DG. Posterior malleolar stabilization of syndesmotic injuries is equivalent to screw fixation. *Clin Orthop Relat Res.* 2010;468:1129–1135.
2. Ogilvie-Harris DJ, Reed SC, Hedman TP. Disruption of the ankle syndesmosis: biomechanical study of the ligamentous restraints. *Arthroscopy.* 1994;10:558–560.

(Re: Miller AN, Carroll EA, Parker RJ, Helfet DL, Lorch DG. Posterior malleolar stabilization of syndesmotic injuries is equivalent to screw fixation. *Clin Orthop Relat Res.* 2010;468:1129–1135.)

A. N. Miller (✉)
Harborview Medical Center, 325 Ninth Ave.,
Box 359798, Seattle, WA 98104, USA
e-mail: anmiller@gmail.com

D. L. Helfet, D. G. Lorch
Hospital for Special Surgery, New York, NY, USA

E. A. Carroll
Wake Forest University School of Medicine,
Winston-Salem, NC, USA